

CLAIM AMENDMENTS

1 Claim 1 (currently amended): A network management system for discovering information
2 about a network, comprising:
3 a plurality of processing nodes;
4 plural discovery agents on said nodes adapted to discover information concerning
5 said network;
6 each of said discovery agents having an associated discovery capability;
7 each of said discovery agents having an associated discovery assignment;
8 collectively, said agent discovery assignments being a subset of said agent discovery
9 capabilities; and
10 said agent discovery capabilities being overlapping and said discovery assignments
11 being non-overlapping, such that (1) no network device is discovered more than once by
12 different discovery agents seeking the same information, (2) one or more agents are not
13 permitted to perform full discovery of information due to one or more other discovery agents
14 being assigned to discover the same information, and (3) no duplicate discovery information
15 is generated.

1 Claim 2 (canceled).

1 Claim 3 (currently amended): A system in accordance with Claim 1 wherein said agent
2 discovery assignments are based on said discovery capabilities of different discovery agents
3 and a determination of which said discovery agents having overlapping discovery
4 capabilities are most fit to receive said agent discovery assignments.

1 Claim 4 (currently amended): A system in accordance with Claim 1 wherein said agent
2 discovery assignments reflect one or more of data collection service registrations in which a
3 network manager in said system registers with said plural discovery agents to receive
4 specified discovery information, agent cost to obtain network information, load balancing
5 among said plural discovery agents, and assignment churn.

1 Claim 5 (currently amended): A system in accordance with Claim 1 wherein said agent
2 discovery assignments comprise ~~one or both of~~ inband and outband discovery assignments.

1 Claims 6-16 (canceled).

1 Claim 17 (currently amended): A network discovery agent for use in a data storage network,
2 comprising:
3 a processing node;
4 discovery capability logic associated with said processing node adapted to determine
5 and provide information about agent discovery capability ~~information~~ to a requestor, said
6 agent discovery capability information being a subset of all discovery information
7 obtainable by said agent;
8 discovery query logic associated with said processing node adapted to implement
9 discovery queries based on agent discovery assignment information determined from said
10 capability information; and

11 said agent discovery capability overlapping the discovery capability of one or more
12 other network discovery agents and said discovery queries utilizing non-overlapping
13 discovery assignments relative to said other discovery agents, such that (1) no network
14 device is discovered more than once by different discovery agents seeking the same
15 information, (2) said discovery agent performs discovery of some information that said
16 other discovery agents are not permitted to obtain; and no duplicate discovery information is
17 generated.

1 Claims 18-20 (canceled).

1 Claim 21 (new): A system in accordance with Claim 1 wherein said agent discovery
2 assignments for one or more of said discovery agents are a subset of said discovery
3 capabilities of said one or more discovery agents.

1 Claim 22 (new): A system in accordance with Claim 1 wherein one or more of said
2 discovery agents are capable of discovering said information from said network device but
3 are given no discovery assignment at all.

1 Claim 23 (new): A system in accordance with Claim 1 wherein said agent discovery
2 assignments are based on said discovery capabilities being processed by a network manager
3 and each discovery agent's discovery assignment being stored at said discovery agent for
4 subsequent reference.

1 Claim 24 (new): A system in accordance with Claim 1 wherein said agent discovery
2 assignments are based on an input listing of said discovery agents, the network devices they
3 are capable of discovering and a cost to discover each network device, and an output listing
4 of said discovery agents and the network devices said discovery agents are assigned to
5 discover.

1 Claim 25 (new): A system in accordance with Claim 24, wherein said agent discovery
2 assignments are further based on entity-sorting computation that produces an entity-sorting
3 listing that associates each network device and one or more discovery agents each having a
4 cost to discover that network device, said listing ordering said network devices according to
5 the discovery costs of the associated discovery agents.

1 Claim 26 (new): A system in accordance with Claim 25, wherein said agent discovery
2 assignments are further based on agent-sorting computation that produces an agent-sorting
3 listing that modifies said entity-sorting listing to order the discovery agents associated with
4 each network device according to one or more of agent cost, load factor and agent identifier.

1 Claim 27 (new): A system in accordance with Claim 1 wherein said discovery agents are
2 configured to conduct agent capability queries in response to capability polls requested by a
3 network manager.

1 Claim 28 (new): A system in accordance with Claim 27 wherein said agent capability
2 queries seek a minimal subset of information required to effect calculation of said agent
3 discovery assignments.

1 Claim 29 (new): A system in accordance with claim 27 wherein each of said discovery
2 agents is configured to implement a full discovery query that returns a complete information
3 hierarchy identifying all levels of discoverable entities in a path from said agent to all
4 network endpoints reachable by that agent, and to further implement said agent capability
5 query that gathers a subset of said complete information hierarchy for use in computing said
6 agent assignments.

1 Claim 30 (new): A system in accordance with Claim 27 wherein said agents are configured
2 to conduct said agent capability queries based on said capability polls being issued in
3 response to one or more of (1) a network event being detected, (2) an agent's discovery
4 capabilities having changed, (3) and an agent being added, removed or modified.

1 Claim 31 (new): A system in accordance with Claim 1 wherein said system is configured to
2 handle failover conditions wherein said discovery agents are no longer able to gather all
3 information required by said discovery assignments, such that there is missing discovery
4 information, said failover conditions being handled by consulting the discovery capabilities
5 of other discovery agents to identify discovery agents that are capable of discovering said
6 missing information.